

# Event programming of scaled internet systems - course description

General information	
Course name	Event programming of scaled internet systems
Course ID	11.3-INFP-PZSSI-Er
Faculty	<a href="#">Faculty of Computer Science, Electrical Engineering and Automatics</a>
Field of study	Computer Science
Education profile	academic
Level of studies	First-cycle Erasmus programme
Beginning semester	winter term 2021/2022

Course information	
Semester	6
ECTS credits to win	5
Course type	optional
Teaching language	english
Author of syllabus	<ul style="list-style-type: none"><li>dr inż. Jacek Tkacz</li><li>dr inż. Michał Doligalski</li></ul>

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Project	15	1	-	-	Credit with grade
Laboratory	30	2	-	-	Credit with grade
Lecture	15	1	-	-	Credit with grade

## Aim of the course

Acquainting with methods of creating and developing internet applications on a single page using JavaScript frameworks and their practical use.

Getting to know the methods of using asynchronous data streams. The use of design patterns (e.g. MVC, observer) in the design of reactive internet applications.

## Prerequisites

- Java and Web technologies
- Concurrent and distributed programming
- Industrial IT project management

## Scope

Creating and developing internet applications in JavaScript // TypeScript on a single page using the MVC pattern. Bidirectional data binding in AngularJS Static and dynamic JSON data sources. Node.js as a runtime environment designed to create highly scalable web applications. Creating event-driven applications using an asynchronous I / O system. Asynchronous reactive programming (RxJS and RxJava).

## Teaching methods

**Lecture:** conventional and multimedia lecture.

**Laboratory:** laboratory exercises

**Project:** Performing project tasks, teamwork

## Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
Studen ma wiedze niezbędną z zakresu projektowania i implementacji systemów reaktywnych oraz tworzenia asynchronicznych aplikacji internetowych.		<ul style="list-style-type: none"><li>an evaluation test</li></ul>	<ul style="list-style-type: none"><li>Lecture</li></ul>
Ma umiejętności z zakresu wykorzystania frameworków i nowoczesnych narzędzi programistycznych do tworzenia reaktywnych aplikacji interenowych.		<ul style="list-style-type: none"><li>carrying out laboratory reports</li></ul>	<ul style="list-style-type: none"><li>Laboratory</li></ul>
Student jest zdolny kreatywnie zaplanować i zrealizować projekt informatyczny realizujący aplikacje internetowe.		<ul style="list-style-type: none"><li>a project</li><li>carrying out laboratory reports</li></ul>	<ul style="list-style-type: none"><li>Laboratory</li><li>Project</li></ul>

## Assignment conditions

**Lecture - The condition of getting credit is obtaining a positive grade from the written test.**

**Laboratory - the condition for passing is obtaining positive grades from all laboratory exercises, planned to be implemented under the laboratory program (80%) and activity in the classroom (20%).**

**Project - a pass condition is to obtain a positive grade from the project task and partial grades.**

**Components of the final grade = lecture: 40% + laboratory: 30% + project: 30%**

## Recommended reading

1. Nurkiewicz T., Christensen B.: Reactive Programming with RxJava. Creating Asynchronous, Event-Based Applications, O'Reilly, 2016
2. Mansill S.: Reactive Programming with RxJS: Untangle Your Asynchronous JavaScript Code, Pragmatic Bookshel, 2015
3. Mardan A.: Practical Node.js: Building Real-World Scalable Web Apps, Apress, 2018

## Further reading

## Notes

Modified by dr inż. Michał Doligalski (last modification: 08-09-2021 21:16)

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